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A nomenclatural history for *Plectorrhiza purpurata* (Orchidaceae)

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Abstract

The nomenclatural history of the Australian epiphytic orchid *Plectorrhiza purpurata* (Rupp) M.A.M.Renner is reviewed. The first name published for this species, *Cleisostoma gemmatum* Rupp, is illegitimate, and Rupp proposed a replacement name, *Cleisostoma purpuratum* Rupp shortly thereafter. Though the replacement was somewhat obliquely worded, Rupp fulfilled the requirements of the *International Code of Nomenclature for algae, fungi, and plants*, such that *Cleisostoma purpuratum* was available to serve as the basionym for the name generally used for this orchid since 1967, i.e. *Schistotylus purpuratus* (Rupp) Dockrill. The transfer of this taxon to *Plectorrhiza* under the new name *Plectorrhiza gemmata* M.A.Clem., D.L.Jones & D.P.Banks resulted in the publication of a superfluous name, because the earliest legitimate epithet *purpurata* is available in *Plectorrhiza* and ought to have been adopted. The required new combination is made.

Introduction

In December 1937 H.M.R. Rupp published the new species name *Cleisostoma gemmatum* Rupp on the basis of a whole plant from Dorrigo sent to him by Mrs W.J. Harrigan, and flowering racemes sent by Mr G.E. Glissan (Rupp 1937). Today these specimens are held in the National Herbarium of New South Wales. Unfortunately, Rupp overlooked the name *Cleisostoma gemmatum* (Lindl.) King & Pantl., which had already been used for an Indian species, meaning Rupp's name for the Australian taxon was an illegitimate later homonym. This was brought to Rupp's attention by Mr C. Schweinfurth of the Harvard University Botanical Museum (Rupp 1938). In response, Rupp (1938) published a short article wherein he explained the issue: 'the specific name *gemmatum* was appropriated.... for an Indian *Cleisostoma*.... I propose to substitute the name *purpuratum*, in allusion to the striking reddish-purple suffusion of the column'. Although the name *Cleisostoma purpuratum* did not appear in the article, Rupp's (1938) intention to publish a replacement name for his illegitimate *C. gemmatum* was clear. His article was entitled '*Cleisostoma gemmatum*', and throughout he discussed only that genus. Therefore, Rupp definitely associated the genus name and the replacement specific epithet, and so fulfilled the requirements of Article 35.2 of the *International Code of Nomenclature for algae, fungi, and plants* (ICN) (Turland *et al.* 2018). Rupp did not provide a full and direct reference to the place of publication of the replaced synonym but under ICN Art. 41.3 Rupp's indication was sufficient for valid publication of a replacement name before 1 Jan 1953. *Cleisostoma purpuratum* Rupp was therefore validly published as a replacement name for *C. gemmatum* Rupp.

Three years later, in a paper discussing the breaking up of the genus *Cleisostoma*, Rupp (1941a) presented another name, *Sarcanthus gemmatus* Rupp, with *Cleisostoma gemmatum* and *C. purpuratum* both listed in synonymy. Because Rupp did not use the earliest available legitimate epithet, *Sarcanthus gemmatus* is both illegitimate and nomenclaturally superfluous under ICN Art. 52.1. Rupp should have used *Cleisostoma purpuratum* as the basionym for a new combination in *Sarcanthus*. This Rupp (1941b) later did by publishing, albeit again rather obliquely, *Sarcanthus purpuratus* (Rupp) Rupp after Miss J. Vickery drew this second error to his attention.

The genus *Schistotylus* was proposed by Dockrill (1967). The single species *Schistotylus purpuratus* (Rupp) Dockrill was a new combination with the basionym *Cleisostoma purpuratum* Rupp, and Dockrill's name has been generally accepted since its publication.

In an article published in the *Australian Orchid Review*, Clements *et al.* (2019) summarised previously published molecular evidence from work by Hidayat *et al.* (2012) and Zou *et al.* (2015) that informed relationships among Australasian species of subtribe Aeridinae. Clements *et al.* (2019) proposed *Papillilabium* Dockrill and *Schistotylus* Dockrill should be synonymised with *Plectorrhiza* Dockrill, in line with these published studies and the morphological similarities among species of these three genera. For *Schistotylus purpuratus* Clements *et al.* (2019) proposed a new name, *Plectorrhiza gemmata* M.A.Clem., D.L.Jones & D.P.Banks, with *Cleisostoma gemmatum* Rupp *nom. illeg.*, cited as the 'basionym'. Because *Cleisostoma purpuratum* had already been published as a replacement name for *C. gemmatum* and was thus available to serve as the basionym for any new species-level combination in another genus unless the epithet was preoccupied, it should have been adopted. *Plectorrhiza gemmata* is illegitimate and nomenclaturally superfluous, and a new combination in *Plectorrhiza* based on *Cleisostoma purpuratum* is made below, in accordance with the ICN, following the proposal to synonymise *Schistotylus* with *Plectorrhiza* by Clements *et al.* (2019).

Taxonomy

***Plectorrhiza purpurata* (Rupp) M.A.M.Renner comb. nov.**

Basionym: *Cleisostoma purpuratum* Rupp, Victorian Naturalist 54: 190 (1938)

≡*Cleisostoma gemmatum* Rupp, Victorian Naturalist 54: 112 (1937), *nom. illeg.* [non *Cleisostoma gemmatum* (Lindl.) King & Pantl., Annals of the Royal Botanic Garden, Calcutta 8: 234 (1898)]

≡*Sarcanthus gemmatus* Rupp, Victorian Naturalist 57: 219 (1941), *nom. illeg. et superfl.*

≡*Sarcanthus purpuratus* (Rupp) Rupp, Victorian Naturalist 58: 41 (1941)

≡*Schistotylus purpuratus* (Rupp) Dockrill, Australasian Sarcanthinae 30 (1967)

≡*Plectorrhiza gemmata* M.A.Clem., D.L.Jones & D.P.Banks, Australian Orchid Review 84: 29 (2019), *nom. illeg. et superfl.*

Type: New South Wales, Deer Vale road, Dorrigo, Oct. 1937, Mrs W.J. Harrigan (lectotype (designated by Rupp 1944): ex herb. Rupp 399a, NSW 93475!).

Notes: Rupp (1937) mentioned that the first material he had seen of the species he named *Cleisostoma gemmatum* was flowering racemes sent to him by a Sydney nurseryman, G.E. Glissan. Glissan then requested that a whole plant (presumably from the wild) be sent to Rupp by Mrs W.J. Harrigan. Although Rupp mentions the existence of the initial material from Glissan in his discussion, he cited only the Harrigan gathering with full collection details immediately after the description. The Harrigan specimen was later cited as the holotype by Rupp (1944), but as no gathering was referred to as 'type' in the protologue, the name had no holotype when published, meaning Rupp effectively designated a lectotype in 1944 (with 'holotype' corrected to lectotype under Article 9.10).

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